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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,846	04/30/2007	Anthony Ivan Day	P09019US00/BAS	1151
881 7590 01/21/2010 STITES & HARBISON PLLC 1199 NORTH FAIRFAX STREET SUITE 900 ALEXANDRIA, VA 22314			EXAMINER JARRELL, NOBLE E	
			ART UNIT 1624	PAPER NUMBER
			MAIL DATE 01/21/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/588,846

**Applicant(s)**

DAY, ANTHONY IVAN

**Examiner**

NOBLE JARRELL

**Art Unit**

1624

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-21 is/are allowed.
- 6) ☒ Claim(s) 12-14, 22 and 24-26 is/are rejected.
- 7) ☒ Claim(s) 15, 16 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/06)  
Paper No(s)/Mail Date 30 April 2007; 6 August 2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. In the current claim set, claims 12-26 are pending and are being examined on the merits.

### ***Priority***

2. The priority date for the instant application under 102 (a) and (b) is 19 March 2004 and 102(e) is 18 March 2005.

### ***Information Disclosure Statement***

3. The information disclosure statements filed 30 April 2007 and 6 August 2008 have been fully considered.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 12, 13, 14, 22, 24, 25, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Day et al. (WO2005/026168, published 24 March 2005, filed 10 September 2004). Schemes 1 and 2 (pages 29 and 30) describe a similar process to what is claimed in the instant application. Condition (c) of page 30 describes a process in which a compound embraced by claim 1 is produced in the presence of an acid catalyst. Compound 2.I (page 35) is embraced by formula (I) of 10/588846. In this compound, L is an *n*-pentylene group, variable x is zero, R<sup>2</sup> is both rings is a phenyl group, R<sup>3</sup> is oxygen, R<sup>6</sup> is H, and R<sup>9</sup> and R<sup>10</sup> combine to form CH<sub>2</sub>-O-CH<sub>2</sub> ring with the nitrogen atoms to which they are attached. This compound is produced by a process similar to example 7 (page 35, lines 5-10), except

that the starting material is a compound in which variable CH(R<sup>6</sup>) does not exist and variables R<sup>9</sup> and R<sup>10</sup> are each hydrogen. Day states that the glycouril analogues are mixed with an acid in this process. The rings are connected through an *n*-pentylene linker (a combination of variable R<sup>2</sup> of the first ring and R<sup>1</sup> of the second ring). Day states that the CH<sub>2</sub> bridge is compound 2.I can be prepared by reacting a glycouril dimer that does not have CH(R<sup>6</sup>) groups (page 34, lines 7-16) (R<sup>5</sup> can be H, page 6, lines 22-23) with formaldehyde (where variable R<sup>5</sup> of R<sup>5</sup>COR<sup>5</sup> is H). In the same reaction the CH<sub>2</sub>-O-CH<sub>2</sub> bridge for variables R<sup>9</sup> and R<sup>10</sup> is formed. A temperature range of 20°C to 60°C (which is encompassed by claims 13 and 14) is discussed by Day (page 31, line 20 to page 32, line 2) when an acid is used. The temperature range depends on the acid used. Claim 24 is anticipated because variables a and d combine to form a linking group in which their sum is the number five (variable c is zero) and R<sup>2</sup> is H (a univalent radical). Claims 25 is anticipated because L is (CH<sub>2</sub>)<sub>5</sub>. Claim 26 is anticipated because compound 2.I is a compound embraced by formula (I) of claim 12 and produced by a similar process that is claimed.

The applied reference has a common applicant and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

### **Double Patenting**

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

Art Unit: 1624

*Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thornton*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 12, 13, 14, 22, 24, and 25 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 7 of U.S. Patent No. 7501523. Although the conflicting claims are not identical, they are not patentably distinct from each other because compound 2.I of 10/588846 is encompassed by the specified claims in both applications. Compound 2.I (page 35) is embraced by formula (I) of 10/588846. In this compound, L is an *n*-pentylene group, variable *x* is zero, R<sup>2</sup> is both rings is a phenyl group, R<sup>3</sup> is oxygen, R<sup>6</sup> is H, and R<sup>9</sup> and R<sup>10</sup> combine to form CH<sub>2</sub>-O-CH<sub>2</sub> ring with the nitrogen atoms to which they are attached. Claim 1 of US 7501523 describes a similar process than instant claim 12. The compound is subjected to an acid to form a cucurbit[n]uril. Claim 7 of US 7501523 specifies the same temperature range as claims 13 and 14 of 10/588846.

#### ***Allowable Subject Matter***

8. Claims 17-21 appear free of the prior art of record.
9. Claims 15, 16, and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. The following is a statement of reasons for the indication of allowable subject matter: Day does not describe compound that contains tricyclic linker (hence, claims 17-21 are not anticipated or rendered obvious). Claims 15 and 16 are not anticipated or rendered obvious because the linker in compound 2.I does not encompass the linkers in claims 15 and 16 (the linker is an *n*-pentylene group).

Art Unit: 1624

Claim 23 is not anticipated or rendered obvious because an *n*-pentylene group is not considered a polymer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOBLE JARRELL whose telephone number is (571)272-9077. The examiner can normally be reached on M-F 7:30 A.M - 6:00 P.M. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. James O. Wilson can be reached on (571) 272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Noble Jarrell/  
Examiner, Art Unit 1624